Exhibit B

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# Hepatitis B Serum Hepatitis





#### **HEPATITIS B**

#### **HEPATITIS B CARRIERS**

+ 100 If infection known to have occurred before age 10 + 50 Others

### **ACUTE HEPATITIS B**

Postpone Present (abnormal liver enzymes) + 0 Completely resolved (liver enzymes normal)

Refer to Med Dir Others (not completely resolved)

#### **CHRONIC HEPATITIS B**

#### Liver biopsy performed:

Refer to Med Dir Normal (no inflammatory cells, no fibrosis)

Minimal

+ 75 Current age < 50 + 50 Current age ≥ 50

Mild

+ 150 Current age < 50 + 100 Current age ≥ 50 Decline Moderate or Severe Decline Cirrhosis Decline

Refer to Med Dir If liver biopsy findings unclear

Liver biopsy not performed:

Rate as Hepatitis B Carrier ALT/AST consistently normal

+ 150 ALT/AST stable, usually ≤ 100 Decline ALT/AST unstable or > 100

#### Treated with interferon or lamivudine:

ALT/AST > 100 or elevated bilirubin

Successful treatment (HBV-DNA negative, HbeAg negative, AST/ALT normal):

> Postpone Off interferon < 1 year

Refer to Med Dir Off interferon ≥ 1 year

Refer to Med Dir, use pre-Unsuccessful treatment

treatment rating

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Hepatitis B					
	Acute Infection	Chronic Infection	Recovery	B Carrier	Immunized
HbsAg	+	+	-	+	-
Anti HBs	-	-	+	-	+
HbeAg	+	+	-	_	-
Anti HBc	-	+/-	+	+	-
HBV-DNA	+	+	-	+/-	-

# Liver Biopsy - Histologic Activity Index

HAI	Description	Old Terminology		
1 - 2	Minimal chronic hepatitis	Nonspecific reactive hepatitis		
		Chronic lobular hepatitis (CLH)		
		Chronic persistent hepatitis (CPH)		
3 - 5	Mild chronic hepatitis	Severe CLH, CPH		
		Mild chronic active hepatitis (CAH)		
6 - 11	Moderate chronic hepatitis	Moderate CAH		
> 11	Severe chronic hepatitis	Severe CAH with bridging		

### Components of Histologic Activity Index

Component	Range of Scores	
Periportal necrosis with/without bridging necrosis	0 - 10	
Lobular degeneration and focal necrosis	0 - 4	
Portal inflammation	0 - 4	
Fibrosis	0 - 4	

Hepatitis B, Serum Hepatitis

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Hepatitis	В	<u>Assessm</u> ent	Treatment	Info	Rates		
Also	Serum hepatitis						
Overview	Hepatitis B is caused by hepatitis B virus (HBV). It is very common in southeast Asia, where infection is often acquired during infancy. Hepatitis B can also progress to chronic hepatitis in 5-10% of adults and 80-90% of children. The disease usually is transmitted by						

- An exchange of body fluids via transfusions
- · Contaminated needles
- Sexual contact.

In order to accurately underwrite hepatitis B, it is important to identify whether the applicant has  $\underline{ACUTE\ hepatitis\ B}$ ; CHRONIC hepatitis B; or is a  $\underline{hepatitis\ B\ CARRIER}$ .

Hepatitis B Assessment Page 1 of 1

# **Hepatitis B Assessment**

In order to accurately underwrite hepatitis B, it is important to identify whether the applicant has acute hepatitis B, chronic hepatitis B, or is a hepatitis B carrier. Acute hepatitis B is generally associated with symptoms and marked elevations of ALT/AST (usually > 300 U/L).

Chronic hepatitis B is characterized by mild to moderate elevations of ALT/AST persisting for 6 months or more. Hepatitis B carriers do not completely clear the virus but liver inflammation has subsided and ALT/AST levels are normal.

Acute Hepatitis B Page 1 of 1

# Acute Hepatitis B

- Acute hepatitis B is generally associated with symptoms and marked elevations of ALT/AST (usually > 300 U/L).
- Acute hepatitis B can be a severe and occasionally life-threatening illness (fulminant hepatitis), especially when it occurs in conjunction with hepatitis D.

Hepatitis B, Chronic Page 1 of 1

# **Chronic Hepatitis B**

- Chronic hepatitis B is characterized by mild to moderate elevations of ALT/AST persisting for 6 months or more.
- Chronic hepatitis B is associated with risk of cirrhosis and hepatocellular carcinoma.
- Some patients will be followed with serial liver ultrasounds and/or serum alpha-fetoprotein levels to look for evidence of hepatocellular carcinoma.

Hepatitis B Carrier Page 1 of 1

### **Hepatitis B Carrier**

- Hepatitis B carriers do not completely clear the virus but liver inflammation has subsided and ALT/AST levels are normal.
- Hepatitis B carrier state is associated with increased risk of hepatocellular carcinoma.
- Some patients will be followed with serial liver ultrasounds and/or serum alpha-fetoprotein levels to look for evidence of hepatocellular carcinoma.

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Hepatitis B Treatment Page 1 of 1

# **Hepatitis B Treatment**

Treatment options include interferon and more recently lamivudine. While there may be a favorable response to these therapies, there is substantial risk of recurrent hepatitis B especially in the first year after treatment is completed.